

INTER-UNIVERSITY ACCELERATOR CENTRE

Aruna Asaf Ali Marg, Post Box 10502, New Delhi- 110067

Ref: IUAC/III.01/7131

Date: Apr 23, 2012

The Director
University of Delhi
South Campus
New Delhi-110021

Dear Madam/ Sir/

✓

✓

Please find enclosed herewith Cheques/ Draft issued by SBI, JNU, New Delhi/ Canara Bank, International operation Branch, Hauz Khas, New Delhi- 110016 towards release of your following Bills:

S. No.	Draft No.	Grant: Fellowship/ Contingency			Amount
1.	871480 20/04/2012	UFR No.	Sanctioned to:	Fellowship/Contingency Year	40,465/-
		50303	Prof. Avinashi Kapoor, South Campus, University of Delhi	1 st Yr. Fellowship: 40645 (04/01/12 to 31/03/12)	

Please send us your stamped receipt at an early date.

Cc to:

Prof. Avinashi Kapoor,
Head Department of Electronic Science
Dean, Faculty of Interdisciplinary Sciences
Chairman, Board of Research Studies
South Campus,
University of Delhi,
New Delhi-110021

Yours Sincerely
For Inter-University Accelerator Centre



Authorised Signatory

Encl. : As above

23238351, 23232701, 23237721, 23234118,

23235733, 23232317, 23238735, 23239437

UGC Website : www.ugc.ac.in



विश्वविद्यालय अनुदान आयोग
बहादुरशाह जफर मार्ग
नई दिल्ली-110 002

UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110 002

December, 2011

F.2-2/2011(SAP-II)

The Registrar

All Universities

Sub: - Enhancement of fellowship amount in respect of the Research Fellows/Project Fellows working under the schemes of Major Research Projects and Special Assistance Programme of UGC.

Sir,

I am directed to inform you that the UGC has revised the fellowship amount in respect of the above fellows w.e.f. 1.4.2010 as per details given below.

Project Fellows in SAP / MRP	Existing Rate (Rs.)	Revised Rate (Rs.)	House Rent Allowance (HRA)
Non-Gate/ Non NET Candidates	Rs.8,000/- p.m.	(i)Rs.14,000/-p.m. for initial 2 years (ii)Rs.16,000/-p.m. from the third year onwards.	As per Central govt. norms
Gate/GPAT/NET Candidates	Rs.8,000/- p.m.	(i)Rs.16,000/-p.m. for initial 2 years (ii)Rs.18,000/-p.m. from the third year onwards.	As per Central govt. norms

This may please be brought to the notice of all the departments of the University. The department/university may send the claim for the arrears accordingly.

Yours faithfully

(V.P. Arora)
Under Secretary

Copy to :- FA, DS(FD), SO(FD-III)
DS(MRP), UGC
SO(SR/MRP) SO(HR/MRP)

(V.P. Arora)
Under Secretary



F. No. 39-557/2010 (SR)

The Under Secretary (FD-III)
University Grants Commission
New Delhi-110002

10 JAN 2011

Sub:- UGC support for the Major Research Project in Physical Sciences, Bio-Sciences, Maths, Medical, Agricultural Sciences and Engineering & Chemistry to University/College Teachers - Project entitled. "Coupled mode analysis for design and simulation of arrayed waveguides and coupled waveguide devices"

Sir,

I am to refer to your letter forwarding the application of Prof. Enakshi Khular Sharma of your institution for financial assistance under the above scheme and to convey the Commission's approval & sanction an on account grant of Rs. 8,03,300/- (Rupees: Eight lakh three thousand three hundred only) to the Registrar, University of Delhi, Delhi in r/o Major Research Project of Prof. Enakshi Khular Sharma, Department of Electronics for the period of 3 years w.e.f. 1.2.2011 as detailed below:-

S.No.	ITEMS	AMOUNT APPROVED	GRANT RELEASED AS 1st INSTALMENT
A.	Non - Recurring		
1.	Books & Journals	nil	6,00,000/-
2.	Equipment (as per proposal)	6,00,000/-	
B.	Recurring		
1.	Honorarium to Retd. Teacher @ Rs. 12, 000/- p.m.	nil	2,03,300/-
2.	Project Fellow @ 8, 000/- p.m.	2,88,000/-	
3.	Chemical/ Glassware / Consumable	nil	
4.	Hiring Services	nil	
5.	Contingency	30,000/-	
6.	Travel/Field Work	25,000/-	
7.	Overhead Charges @ Rs. 10% approved recurring Grant (Except Travel & Field Work)	31,800/- 15,900/=	
	Total (A + B)	9,74,800/-	8,03,300/-

The acceptance Certificate in prescribed format attached Annexure I may be sent to the undersigned within one month from the issue of the award letter failing which the project may be treated as cancelled.

If the terms & conditions are acceptable, as per guideline which are available on UGC web-site www.ugc.ac.in the Demand Draft/ Cheque being sent may be retained. Otherwise the same may be returned in original to the commission by Registered Post in variably with in 15 days from the receipt of the Demand Draft/Cheque.

Principal Investigators should ensure that the utilization Certificate to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to the University Grants Commission in time.

The final report of the project may be submitted in typed form as well as electronically i.e. in floppy/CD

o/c
26/1/2011
ISSUED



UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110002

FD Diary No. - 63
Dated - 13.07.2015

F No - 43-287/2014(SR)

MRP-MAJOR-ELEC-2013-4313
(GENERAL)

Dated :- July, 2015

5 AUG 2015
5 AUG 2015

The Under Secretary (FDIII),
University Grants Commission,
Bahadur Shah Zafar Marg,
New Delhi-110002.

Sub:- Release of Grants-in-aid to University of Delhi, New Delhi-110021 for the year 2015-16 under Plan in respect of Major Research Project entitled "Physics Based Modeling and simulation of Channel Material Engineered Ring FET for Sensing Applications" awarded to Prof. Mridula Gupta, Department of Electronics Science, Tenure of project for 3 year(s) w.e.f. 01/07/2015.

Sir/Madam,

I am directed to convey the approval sanction of the University Grants Commission for payment of grant of Rs. 13,93,000/- (Rupees THIRTEEN LAKHS NINETY THREE THOUSAND ONLY) as 1st instalment for the years 2015-16 towards Major Research Project to the DIRECTOR, University of Delhi, New Delhi-110021 for the Plan expenditure to be incurred during 2015-16.

S. No.	Items	Head of Account	Amount Approved(Rs.)	Grant being Released as 1st Installment(Rs.)	Grant Already Released(Rs.)	Total Grant(Rs.)
A.	Non-Recurring					
1.	Books & Journals	3(A).49(a).35	Rs. 0/-	Rs. 0/-	-	Rs. 0/-
2.	Equipment		Rs. 10,00,000/-	Rs. 10,00,000/-	-	Rs. 10,00,000/-
B.	Recurring					
1.	Honarium to Retd. Teacher @ Rs. 18,000/- p.m.	3(A).49(a).31	Rs. 0/-	Rs. 0/-	-	Rs. 0/-
2.	a. Project Fellow (Non-Gate/Non NET) @ Rs. 14,000/- p.m. b. Project Fellow (Gate/NET/GPAT) @ Rs. 16,000/- p.m. Tenure - 3 year(s)		Rs. 6,00,000/-	Rs. 3,00,000/-	-	Rs. 3,00,000/-
3.	Chemical/Glassware/Consumable (Raw Material & Packaging Material etc.)		Rs. 0/-	Rs. 0/-	-	Rs. 0/-
4.	Contingency		Rs. 30,000/-	Rs. 15,000/-	-	Rs. 15,000/-
5.	Hiring Services		Rs. 0/-	Rs. 0/-	-	Rs. 0/-
6.	Travel / Field Work		Rs. 30,000/-	Rs. 15,000/-	-	Rs. 15,000/-
7.	Any Other		Rs. 0/-	Rs. 0/-	-	Rs. 0/-
8.	Overhead Charges 10% of approved recurring Grant (Except Travel & Field Work)		Rs. 63,000/-	Rs. 63,000/-	-	Rs. 63,000/-
Total (A + B)			Rs. 17,23,000/-	Rs. 13,93,000/-		Rs. 13,93,000/-

ISSUED

जी. एस. आलख

G. S. AULAKH

अवर सचिव / Under Secretary
विश्वविद्यालय अनुदान आयोग
University Grants Commission

R. K. Tayal
Scientist- G/ Advisor
Ph. (O) 26512463

SR/S3/EECE/042/2007

November 16, 2007

Subject: Modeling, Simulation and Characterization of Quantum Different Gate Geometric Double Gate High Electron Mobility Transistor for High Power & High Frequency Applications with Two Separate/Common Gate Control

Dear Dr. Gupta,

Kindly refer to your captioned project considered by the PAC – Electrical, Electronics and Computer Engineering recently. I am pleased to inform you that the project has been favourably recommended by the PAC.

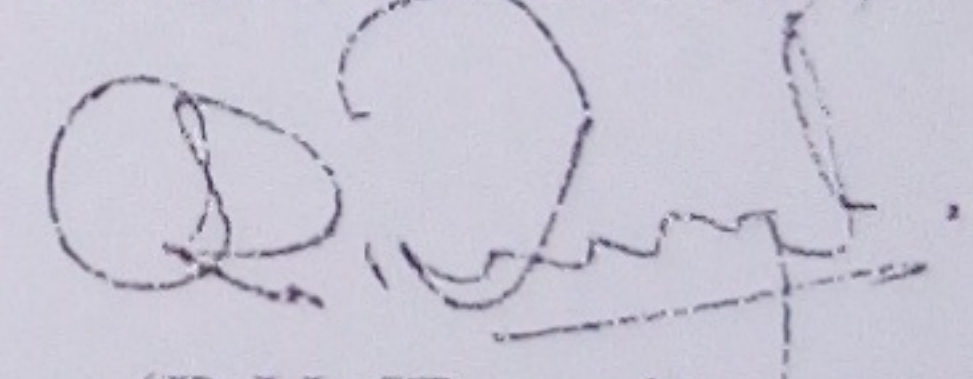
Pending final approval of SERC, please send the following documents immediately: -

- Valid quotations for permanent equipment (CIF value) asked in the proposal. PE budget, based on enclosed quotations may also be furnished in the form of a separate "Summary Sheet".
- Institute's norms for the salary of project staff.

The above documents, as well as, all future correspondence may please be sent directly in the name of my colleague, Shri JBV Reddy who will be handling the project henceforth. I shall remain accessible to Shri Reddy for all project related matters, incase there is any such need. On his part, Shri Reddy will also keep interacting with you directly for all project related matters.

With kind regards,

Yours sincerely,


(RK Tayal)

Dr. Mridula Gupta
Department of Electronic Science
University of Delhi
South Campus
New Delhi 110021, Delhi

No. SR/S3/EECE/0063/2012
Science and Engineering Research Board
(SERB)

Technology Bhavan,
New Mehrauli Road,
New Delhi – 110016
Dated 29 August 2012

ORDER

SUB: Financial Assistance for the Project Proposal on “Analytical Modeling and Simulation for sub-100nm Advance Tunnel FET architectures for RF / Microwave and Biosensing Applications” from Dr. Mridula Gupta, Department of Electronic Science, University of Delhi South Campus, Benito Juarez Road, New Delhi, Delhi - Release of first installment of the grant.

SERB hereby accords sanction to the above-mentioned project at a total cost of Rs. 31,14,000/- (Rupees Thirty one lakh fourteen thousand only) with break-up of Rs. 15,94,000/- under Capital head and Rs. 15,20,000/- under General head for a duration of 36 months. The items of expenditure for which the total allocation of Rs. 31,14,000/- has been approved for a period of 36 months are given below:

Sl.No.	Sanction head	1st Year	2nd Year	3rd year	Total
A	Non-recurring (Capital Items)				
I	Pmt Equipment	Rs.1,594,000	Rs.0	Rs.0	Rs.1,594,000
	Synopsis 3D TCAD & Full Custom University Bundle, One Server with UPS, One Computer with UPS and One Printer				
	Total (Capital)	Rs.1,594,000	Rs.0	Rs.0	Rs.1,594,000
B	Recurring (General)				
I	Salaries	Rs.249,600	Rs.249,600	Rs.280,800	Rs.780,000
	One JRF @ Rs.16,000/16,000/18,000 + 30% HRA				
II	Consumables	Rs.20,000	Rs.20,000	Rs.20,000	Rs.60,000
III	Contingency	Rs.40,000	Rs.30,000	Rs.30,000	Rs.100,000
IV	Travel	Rs.20,000	Rs.30,000	Rs.30,000	Rs.80,000
V	Over Heads	Rs.300,000	Rs.100,000	Rs.100,000	Rs.500,000
	Total (General)	Rs.629,600	Rs.429,600	Rs.460,800	Rs.1,520,000
C	Grand Total	Rs.2,223,600	Rs.429,600	Rs.460,800	Rs.3,114,000

2. Overhead expenses are meant for the host Institute towards the cost for providing infrastructural facilities and general administrative support.
3. Sanction is also accorded to the payment of Rs. 15,94,000/- (Rupees Fifteen lakh ninety four thousand only) under ‘Grants for creation of capital assets’ (46.01.35) and Rs. 6,29,600/- (Rupees Six lakh twenty nine thousand six hundred only) under ‘Grants-in-aid General’ (46.01.31) to the Director, University of Delhi South Campus, Benito Juarez Road, New Delhi, Delhi - 110021 being the first installment of the grant for the year 2012-13 for implementation of the said research project.
4. Sanction of the grant is subject to the conditions as enclosed.
5. The amount of Rs. 22,23,600/- (Rupees Twenty two lakh twenty three thousand six hundred only) will be drawn by the Drawing and Disbursing Officer, SERB and will be disbursed to the Director, University of Delhi South Campus, Benito Juarez Road, New Delhi, Delhi - 110021 by means of A/C payee Cheque.

Handwritten signature

No. BT/PR5206/MED/32/235/2012

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY

Block 2, 6-8th Floors
CGO Complex, Lodhi Road,
New Delhi- 110 003

Dated: 12/10/2012

ORDER

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled "**DEVELOPMENT OF AN ACCURATE & RELIABLE BIOSENSOR BASED ON RAMAN SCATTERING & PHOTOLUMINESCENCE EMISSION IN SINGLE WALLED CARBON NANOTUBES FOR MEDICAL DIAGNOSTICS AND MUTATION DETECTION IN DISEASED DNA**" for a period of 1 Year 6 Month at a total cost of Rs. **1432600** (Rupees Fourteen Lakhs Thirty Two Thousand Six Hundred Only) on the terms and conditions detailed here under:-

2 The Project :

2.1 Title : "DEVELOPMENT OF AN ACCURATE & RELIABLE BIOSENSOR BASED ON RAMAN SCATTERING & PHOTOLUMINESCENCE EMISSION IN SINGLE WALLED CARBON NANOTUBES FOR MEDICAL DIAGNOSTICS AND MUTATION DETECTION IN DISEASED DNA"

2.2 Project Investigator :

Dr. P K Bhatnagar

PI

Department of Electronic Science

Delhi University, South Campus

Benito Jaurez Road, New Delhi, -

110021, Delhi

CO-PI:

Dr. AMIT KUMAR

Assistant Professor

Electronics

University of Delhi, North Campus

Department of Electronics, Bhaskarcharya College of

Applied Science (University of Delhi), Dwarka, Sector-2,

Phase-1, New Delhi, INDIA PIN: 110075, - 110075, Delhi

Budget Head	Year I	Year II	Total
Personnel	450000.00	450000.00	900000.00
Overhead	150000.00	150000.00	300000.00
Travel	100000.00	100000.00	200000.00
Equipment	100000.00	100000.00	200000.00
Contingency	100000.00	100000.00	200000.00
Total (Rs.)	1000000.00	1000000.00	2000000.00

2.3 Objectives:

1. To suspend the SWNTs bundle using probic DNA with repeating GT sequence in pure water (resistivity of water $\sim 15-18 \text{ M}\Omega\text{-cm}$) in order to disperse the bundle individually. Concentration of SWNTs will be kept about 1mg per ml.
2. To examine the fluorescence spectrum of DNA-SWNT complex (in the nIR range) with the help of fluorometer using appropriate excitation wavelengths (600-800 nm) from Xenon flash lamp.
3. To remove free ssDNA from solution by dialysis. For sensitivity of the experiment free DNA is not required because it will act as secondary target for the complementary sequence DNA (cDNA) to be introduced for hybridization. Its concentration therefore should be as low as possible.
4. To determine the concentration of left over free DNA with help of UV-visible absorption spectroscopy.
5. To introduce ssDNA having complementary sequence (cDNA) and incubate it at about 40°C for appropriate duration (1 to 3 days) to achieve hybridization in steady state.
6. To measure the fluorescence spectrum of cDNA-DNA-SWNT hybridized complex and to measure blue shift in the spectra as compared to that of DNA-SWNT hybrid. The concentration of cDNA will be increased gradually till the blue shift is saturated.
7. To introduce DNA of non-complementary sequence (nDNA) in the DNA-SWNT aqueous solution and to examine the fluorescence spectra of the hybrid system.
8. To examine the effect of mutations on blue shift of PL peak of different chirality of SWNT on the sensitivity of sensor (i.e. blue shift in the fluorescence spectrum) and to optimize these parameters.
9. To examine the extent of hybridization of cDNA on the DNA-SWNT target with the help of Raman spectroscopy in the range $100-3000\text{cm}^{-1}$.
10. To examine the effect of mutation on blue shift of PL peak of different chirality of SWNT.

2.4 Time Schedule:

The duration of the project is 1 Year 6 Month from the date of this sanction order.

2.5 Project Cost:

The total cost of the project is Rs. **1432600/-** (Rupees Fourteen Lakhs Thirty Two Thousand Six Hundred Only) as per details given below :

Budget Head	Year I	Year II	Total(Rs.)
Equipment	436000.00		436000.00
Manpower	464400.00	232200.00	696600.00
Overhead	50000.00	25000.00	75000.00
Travel	15000.00	15000.00	30000.00
Consumables	100000.00	45000.00	145000.00
Contingency	25000.00	25000.00	50000.00
Total (Rs.)	1090400.00	342200.00	1432600.00

2.6 Equipment:

The details of the equipment sanctioned for the implementation of the project at
Annexure-I

2.7 Manpower:

The details of the manpower sanctioned for the implementation of the project at
Annexure-II

3. Head of Account:

The **Non-Recurring** expenditure involved is debitable to:

ORDER

26.08.2011

Sanction of the President is hereby accorded for incurring an expenditure not exceeding ₹ 4,93,500/- (₹ Four ninety three thousand five hundred only) in connection with implementation of the India-Japan research project entitled "Fabrication and Characterization of Ultraviolet (340-400 nm) Light Emitting Diodes based on Heterojunctions of Electrochemically grown n-ZnO nanorods and p-type Organic Materials" under India-Japan S&T Cooperation to be implemented by Prof. P.K. Bhatnagar, University of Delhi in collaboration with Prof. Akihiro Wakahara, Toyohashi University of Technology, Hibariga-oka, Tempaku, Toyohashi, Japan for a total duration of two years from the date of receipt of the DD of initial grant which has to be intimated by the grantee institution.

2. The composition of the project team is as below:

Indian side	Japanese Side
i) Prof. PK Bhatnagar Electronic Science University of Delhi, South Campus, New Delhi-21	i) Prof. Akihiro Wakahara Dept. of Electrical and Electronic Engineering Toyohashi University of Technology Hibariga-oka, Tempaku, Toyohashi, Japan
ii) Dr. Avinash Kapoor Electronic Science University of Delhi, South Campus, New Delhi-21	ii) Dr. H.Okada Intelligent Sensing System, Research Centre TUT, Toyohashi, Japan
iii) Dr. PC Mathur Electronic Science University of Delhi, South Campus, New Delhi-21	iii) Dr. Hiroto Sekiguchi Intelligent Sensing System, Research Centre TUT, Toyohashi, Japan
iv) Dr. Swati Nagpal Dept. of Physics, Rajdhani College, New Delhi	
v) Dr. Rajesh Mohan Dept. of Physics, ARSD College, New Delhi	

The change/replacement of project participants is not allowed. The participating scientists should be working on the project and affiliated with the Institute/University holding the indicated position at the time of start of the project as well as at the time of exchange visits under the project. The expenditure related to approve visits of participating scientists, as mentioned above, only can be met from the project grant.

3. The break up of estimated expenditure is as indicated below and re-appropriation of funds from one budget head to the other is NOT permitted under this project:

Items of Expenditure	I Year	II Year	Total
A. <u>Visits by Indian Scientist to Japan</u> (21 days each)	2 visits	2 visit	4 visits
- International air fare by lowest economy class, Airport taxes and airport transfers	1,00,000/-	1,00,000/-	2,00,000/-
- Visa fee	3,500/-	3,500/-	7000/-
- medical insurance	1,500/-	1,500/-	3000/-
B. <u>Visits by Japanese Scientists to India</u> (21 days each)	2 visits	2 visits	4 visits
- Accommodation in Guest House as per actuals	84,000/-	84,000/-	1,68,000/-
- Per diem for food and out of pocket expenses (@ Rs. 1000/ per day	42,000/-	42,000/-	84,000/-
- Local transportation	4,000/-	4,000/-	8,000/-
Grand Total	2,35,000/-	2,35,000/-	4,70,000/-

4. As per the financial terms agreed by both sides, the sending side will pay the international transportation cost and the receiving side would provide the local hospitality of the visiting Scientists under the project.

5. All project related Visits to be undertaken by the scientists from either side in connection with the implementation of the project should be as per this order. The scientists listed in this order are eligible for the exchange visits and the implementing agency should ensure the same before giving permission for the exchange visits to either country under the project.

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भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
विज्ञान और प्रौद्योगिकी विभाग
टेक्नोलॉजी भवन, महारौली मार्ग
नई दिल्ली-110 016

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
TECHNOLOGY BHAVAN, NEW MEHRAULI ROAD
NEW DELHI-110 016



Telegram : Scientechn
दूरभाष/Tel : 26962819, 26567373,
26562134, 26562122 (EPBAX)
फैक्स/Fax : 26569908, 26864570,
26863847, 26862418

No. INT/PORTUGAL/P-09/2009

Dated 11.01.2011

ORDER

Sanction of the President is hereby accorded for incurring an expenditure not exceeding Rs. 4,31,200 (Rupees four lakh thirty one thousand two hundred only) in connection with implementation of the Indo-Portuguese Research Cooperation in Science & Technology joint project entitled, "Development and Characterization of Chemically Functionalized Single and Multi Walled Carbon Nanotube – Thermoplastic Composites" to be implemented by Prof. P.K. Bhatnagar, Department of Electronic Science, University of Delhi, South Campus, New Delhi in collaboration with the Prof. Maria da Conceicao de Jesus Rego Paiva, Institute for Polymers and Composites, University of Minho, Portugal for a total duration of three years from *date of issue of this sanction*.

The break-up of approved expenditure is as indicated below and *no reappropriation shall be allowed under this project:-*

A. Exchange visit of Indian Scientists to Portugal

	In Rs.		
	1 st year	2 nd year	3 rd year
Number of Visit	one	one	one
Air Fare for sector (Delhi-Lisbon-Delhi)	75,000	75,000	75,000
Medical Insurance & Visa fee @ Rs. 5,000/-	5,000	5,000	5,000
Total (A)	80,000	80,000	80,000

Local hospitality in Portugal is expected to be provided by the Portugal side as per the terms and conditions of the existing POC

B. Exchange visit of Portugal Scientists to India

	1 st year	2 nd year	3 rd year
Number of Visit	One (30 days)	One (7days)	One (7days)
Local hospitality in terms of accommodation @ Rs. 2,000/- per day for 7 days and 50,000 for 30 days)	50,000	14,000	14,000
Per diem @ Rs. 1,000/- per day for each person	30,000	7,000	7,000
Local Transport expenses	10,000	10,000	10,000
Total (B)	90,000	31,000	31,000
Total (A + B)	1,70,000	1,11,000	1,11,000
Overhead (C) 10% of A + b	17,000	11,100	11,100
Total (A + B + C)	1,87,000	1,22,100	1,22,100
Grand Total			4,31,200

Contd...

No.31/11/2010-11/PVSE
Government of India
Ministry of New and Renewable Energy
(SPV Group)

Block No. 14, CGO Complex,
Lodi Road, New Delhi - 100003
Dated: 23rd Feb. 2011

To

The Pay & Accounts Officer,
Ministry of New and Renewable Energy
New Delhi 110 003.

Subject : Sanction of Grants-in-aid- for implementation of R&D project on 'Development and Characterization of a Hybrid Structure: Salmon DNA-Conducting Polymer (P3HT) - Quantum Dot (CdSe) - Carbon Nanotube (SWNT) Suitable for a Bio Solar Cell with High Efficiency due to Impact Ionization and Improved Stability' by Prof. P.K. Bhatnagar, Department of Electronic Science, University of Delhi, South Campus, New Delhi.

Sir ,

I am directed to convey sanction of the President for implementation of an R&D project on "Development and Characterization of a Hybrid Structure: Salmon DNA-Conducting Polymer (P3HT) - Quantum Dot (CdSe) - Carbon Nanotube (SWNT) Suitable for a Bio Solar Cell with High Efficiency due to Impact Ionization and Improved Stability" by Prof. P.K. Bhatnagar, Department of Electronic Science, University of Delhi, South Campus, New Delhi for a period of 3 years, with the financial support of the Ministry of Rs. 90,06,100/- (Rupees Ninety lakh six thousand and one hundred only). The above sanction will be on the following terms and conditions:-

(i) Project Title: Development and Characterization of a Hybrid Structure: Salmon DNA-Conducting Polymer (P3HT) - Quantum Dot (CdSe) - Carbon Nanotube (SWNT) Suitable for a Bio Solar Cell with High Efficiency due to Impact Ionization and Improved Stability.

(ii) Project Investigator: Prof. P.K. Bhatnagar, Department of Electronic Science
University of Delhi South Campus, New Delhi-110021.

(iii) Project Objective:

(a) Broad Objective

Broad objective of the project is to develop materials and structures suitable for low cost, high efficiency and stable PV devices using environment friendly processing techniques

(b) Specific objectives

- i. Optimizing the various components of the solar cell to obtain high efficiency and stability.
- ii. To reduce the degradation of the cell as much as possible so that the operating life of the resultant solar cell is greater than 2×10^4 hrs.
- iii. To develop solar cell of 7-8% efficiency

P.T.O

No.31/11/2010-11/PVSE
Government of India
Ministry of New and Renewable Energy
(SPV Group)

Block No. 14, CGO Complex,
Lodi Road, New Delhi - 100003
Dated: 23rd Feb. 2011

To

The Pay & Accounts Officer,
Ministry of New and Renewable Energy
New Delhi 110 003.

Subject : Sanction of Grants-in-aid- for implementation of R&D project on 'Development and Characterization of a Hybrid Structure: Salmon DNA-Conducting Polymer (P3HT) - Quantum Dot (CdSe) - Carbon Nanotube (SWNT) Suitable for a Bio Solar Cell with High Efficiency due to Impact Ionization and Improved Stability' by Prof. P.K. Bhatnagar, Department of Electronic Science, University of Delhi, South Campus, New Delhi.

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- i. Optimizing the various components of the solar cell to obtain high efficiency and stability.
- ii. To reduce the degradation of the cell as much as possible so that the operating life of the resultant solar cell is greater than 2×10^4 hrs.
- iii. To develop solar cell of 7-8% efficiency

P.T.O

(iv) Time Schedule: 3 years

(v) Budget

Sl. No	Item	Amount (Rs.) (in Lakhs)			
		First Year	Second Year	Third Year	Total Cost
1.	Equipment	58.000	0	0	58.000
2.	Manpower	4.272	4.272	4.272	12.816
3.	Consumables	1.00	1.00	1.00	3.00
4.	Contingencies/ Other Costs	1.00	1.00	1.00	3.00
5.	Travel	0.50	0.50	0.50	1.50
6.	Institutional Overhead charges (15%)	9.715	1.0150	1.0150	11.745
	Total	74.487	7.787	7.787	90.061

(vi) Equipment

Sl.No.	Generic name of the Equipment along with make & model	Imported/ Indigenous	Estimated Cost (in Lakh)
1.	AFM (VEECO)	Imported/ Indigenous	Rs. 30.0 lakh
2	IR Fluorimeter	Imported	Rs. 28 lakh
Total			Rs. 58 lakhs

(vii) Manpower:

Research Associate	One
Junior Research Fellow	One

(viii) Expected Output of the Project:


The expected output of the proposal is to achieve lab scale model development of solar cell with an efficiency of 7-8%

(ix) Monitoring:

The PI will submit quarterly report to the Ministry about the development / progress made as per the Policy & Guidelines for R&D dated 18.10.2010. MNRE will constitute a project monitoring committee for this project. The project monitoring committee will interact with PI to review the progress and suggest course corrections if necessary.

(x) IPR and Technology transfer:

The issues relating to IPR and technology transfer will be governed by the para 12 of R&D Policy No. 1/1/2005/R&D dated 18.10.2010 of the Ministry.

 P.T.O



MINISTRY OF
SCIENCE & TECHNOLOGY

भारत सरकार

विज्ञान और प्रौद्योगिकी मंत्रालय

बायोटेक्नोलॉजी विभाग

ब्लॉक-2, 7 वां तल, सी० जी० ओ० कम्पलेक्स

लोदी रोड, नई दिल्ली-110003

GOVERNMENT OF INDIA

MINISTRY OF SCIENCE & TECHNOLOGY

DEPARTMENT OF BIOTECHNOLOGY

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Arvind Duggal
Adviser
duggal@dbt.nic.in

No. BT/PR12035/MED/32/110/2009

December 7th, 2009

Dear Dr. Bhatnagar,

Kindly refer to your project proposal entitled "**Mutation Detection for Medical Diagnostics using Fret Between Cationic Conjugated Polymer and Labelled PNA Probes**" submitted to the department for consideration for funding. This is to inform you that Task Force on Bioengineering has recommended your project proposal for financial support at the following budget –

Equipment	-	Rs. 20.50 Lakh
Consumables	-	Rs. 15.00 Lakh for three years
Manpower	-	RA-1, JRF-1
Travel/Contingency/Others	-	As per DBT Norms

I shall appreciate, if you could send the list of equipments for the budget along with quotations and summary of quotations in Indian rupees.

With kind regards,

Yours sincerely,

(Arvind Duggal)

Dr. P.K. Bhatnagar,
Professor,
Department of Electronic Science,
University of Delhi, South Campus,
Benito Juarez Road, New Delhi-110021